

REMARKS/ARGUMENTS

Favorable reconsideration of this application in light of the following discussion is respectfully requested.

Claims 1-5 and 9-11 are presently active in this case. The present Amendment amends Claims 1, 4-5; cancels Claims 6-8 and adds Claims 9-11.

The outstanding Office Action included a restriction requirement between method Claims 1-5 and composition Claims 6-8. Claims 1 and 4/1 were rejected under 35 U.S.C. § 103(a) as unpatentable over Rossi et al. (U.S. Patent No. 4,664,969) in view of Bolt et al. (U.S. Patent No. 5,807,798) further in view of Bell et al. (U.S. Patent No. 7,138,084). Claims 2-3, 4/2 and 4/3/2 were rejected under 35 U.S.C. § 103(a) as unpatentable over Rossi et al. in view of Bolt et al. in view of Bell et al. further in view of Mills (U.S. Patent No. 5,143,777). Claim 5/1 was rejected under 35 U.S.C. § 103(a) as unpatentable over Rossi et al. in view of Bolt et al. in view of Bell et al. further in view of Tawil et al. (U.S. Patent No. 5,725,955).

In response to the Restriction Requirement, Applicant hereby elects the method, and lists Claims 1-5 and 9-11 as reading thereon. Claims 6-8, directed to a non-elected invention, are canceled. Applicant reserves the right to present claims directed to the non-elected inventions in a divisional application, which shall be subject to the third sentence of 35 U.S.C. § 121.¹

In response to the rejections on the merit of the method claims 1-5 and to the withdrawal of Claims 6-8, Applicant respectfully notes that such examination was premature and should have been performed after Applicant had elected their invention to be prosecuted in the present application since Applicant could have elected the claimed composition instead of the claimed method.

¹ "A patent issuing on an application with respect to which a requirement for restriction under this section has been made ... shall not be used as a reference ... against a divisional application." See also MPEP 804.01.

In order to clarify Applicant's invention, Claim 1 is amended to recite that the refractory container is configured to receive *molten titanium*, and that the coating obtained on the contact surface of the refractory container that is inert to the *molten titanium*. The claims are also amended to more clearly state that the amounts for the binders are given in % **by weight**. These features find non-limiting support in the disclosure as originally filed, for example at page 3, lines 11-14; and page 4, lines 11-14.

In order to vary the scope of protection recited in the claims, new Claims 9-11 are added. New Claims 9-11 find non-limiting support in the disclosure as originally filed, for example at page 5, lines 5-6 and 20-24. Therefore, the changes to the claims are not believed to raise a question of new matter.²

In response to the rejections of the claims under 35 U.S.C. §103(a), and in light of the present Amendment, Applicant respectfully requests reconsideration of these rejections and traverses the rejections, as discussed next.

Briefly recapitulating, Applicant's invention, as recited in Claim 1, relates to a method for passivating the contact surface of a refractory container made mainly of mullite, wherein the refractory container is configured to receive molten titanium. The method includes the following step of applying to the contact surface a coating comprising 50% to 70% by weight of alumina flour (Al_2O_3) filler and 30% to 50% by weight of binder. The binder includes **50% to 60% by weight of aluminum chloride AlCl_3** dissolved in 40% to 50% by weight of water. The method further includes a step of drying the coating, and a step of firing the container in an oxidizing atmosphere between 1450°C and 1550°C for at least 20 minutes thereby obtaining a coating on the contact surface of the refractory container that is *inert to the molten titanium*.

² See MPEP 2163.06 stating that "information contained in any one of the specification, claims or drawings of the application as filed may be added to any other part of the application without introducing new matter."

As explained in Applicant's specification, conventional refractory containers, which are made mainly of mullite and configured to receive molten titanium for casting, chemically react with the titanium. These reactions cause inclusions of undesirable components that can weaken the casting. Applicant has found that the claimed method provides an improved coating on the container that is inert to the titanium.³

Turning now to the applied prior art, the Rossie et al. patent discloses a method for applying refractory fiber to a surface of a brick substrate. A binder containing aluminum chloride is used to bond the fiber to itself and to the substrate surface. The Rossi et al. patent, however, fails to disclose Applicant's claimed binder. The outstanding Office Action rejects Applicant's claims based on the proposition that the Rossi et al. patent discloses the claimed binder. The outstanding Office Action relies on the Rossi et al. patent's text at column 6, lines 53-54, example 6. This passage of the Rossi et al. patent, however, discloses "a 50% *by volume* aluminum chloride and water solution." In contrast, the claims require that the binder include *50% to 60% by weight of aluminum chloride AlCl₃* dissolved in 40% to 50% by weight of water. Further, weight information cannot be deduced from volume information in the case of a powder. Rossie et al. provides some information about the amount by weight of the binder components at column 8, lines 10-14. Even if the combination of the Rossi et al., Bolt et al., Bell et al., Mills, and Tawil et al. patents is assumed to be proper, the combination fails to teach every element of the claimed invention. Specifically, the combination fails to teach the claimed binder. Accordingly, Applicant respectfully traverses, and requests reconsideration of, this rejection based on these patents.⁴

³ See Applicant's specification at page 1, lines 20-39; page 2, lines 1-24, and page 3, lines 5-14.

⁴ See MPEP 2142 stating, as one of the three "basic criteria [that] must be met" in order to establish a *prima facie* case of obviousness, that "the prior art reference (or references when combined) must teach or suggest all the claim limitations," (emphasis added). See also MPEP 2143.03: "All words in a claim must be considered in judging the patentability of that claim against the prior art."

Further, the combination of references fail to disclose a method to form a coating on the contact surface of a refractory container that is inert to the molten titanium received in the refractory container, as required by amended Claim 1. The references are not concerned with improving coatings of such containers by avoiding chemical reactions with molten titanium to reduce inclusions of components that can weaken the titanium casting. Therefore, there is no apparent reason to modify the applied prior art in order to obtain Applicant's claimed method. In addition, the fact that the Rossi et al binder is suitable for the purpose of coating a brick substrate does not render obvious the use of its binder for any and all purposes, in particular for coating containers that receive molten titanium, which is known to impose specific constraints and have chemical reactions that are significantly different from these of a brick substrate. Thus, for a person of ordinary skill in the art, there is no reasonable expectation of success that the Rossi et al. binder would function as intended on a container for receiving molten titanium.

Consequently, in view of the present amendment, no further issues are believed to be outstanding in the present application, and the present application is believed to be in condition for formal Allowance. A Notice of Allowance for Claims 1-5 and 9-11 is earnestly solicited.

Should the Examiner deem that any further action is necessary to place this application in even better form for allowance, the Examiner is encouraged to contact Applicant's undersigned representative at the below listed telephone number.

Respectfully submitted,

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